

APPENDIX B
PRESTORM/STORM/AND STORM RECOVERY
OPERATIONS FOR THE SOUTH DADE CONVEYANCE
SYSTEM

Pre-Storm / Storm / and Storm Recovery Operations for the South Dade Conveyance System

This document is in draft and provides criteria to be used in preparing the South Dade Conveyance System (SDCS)/Miami Dade County for forecasted storm events. The SDCS is composed of L-31N, L-31W, and C-111 canal system and control structures. Currently, for the East Coast Canal System, the canal system and control structures to the east of L-31N, the South Florida Water Management District (SFWMD) implements canal drawdown operations based on impending rainfall events. The goal for the SDCS is to develop a similar set of canal drawdown operating criteria which seek to balance the needs of the natural system with the authorized purposes of the Central and Southern Florida (C&SF) Project, which is multipurpose in scope and includes flood control and water supply.

The hurricane season is from June through November. When there are tropical storms,

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depending on the forecast, 12 – 24 hours prior to the impact of tropical storm force winds.

- Condition 3, 48 – 24 hours prior to the impact of tropical storm force winds, continue pre-storm operations and coordination with the Corps of Engineers and local drainage districts.
- Condition 2, 24 – 12 hours prior to the impact of tropical storm force winds, bring telemetry-controlled sites to final pre-storm configuration, establish alternate emergency control station if necessary.

NHC. These pre-storm drawdown levels are not less than the level at which water supply deliveries are made during dry periods, that is 1.5 ft below optimum canal levels, except the reach north of G-211, which is 1.0 ft below current, normal operating levels. These levels are target levels and may not be attainable.

Table 1.

| Canal | Reach | Target Level for Draw-Down (ft) |
|-------|----------------|------------------------------------|
| L-31N | G-211 to S-331 | 4.0* |
| L-31N | S-331 to S-176 | 4.0 |
| L-31W | S-174 to S-175 | No target |
| C-111 | S-176 to S-177 | 3.0 |
| C-111 | S-177 to S-18C | 2.0 |
| C-111 | S-18C to S-197 | No change** |

*If Angel's well is 5.5 ft-NGVD or below, then 4.0 would be the target, otherwise, 3.5 ft-NGVD at the headwater of S-331 will be the target.

**Operation as specified in the SFWMD structure book for S-197

Sequence for Achieving Target Levels

In an effort to achieve the specified drawdown targets, a sequence of operational actions is recommended as described in Table 2. The goal is achieve one target before proceeding the next sequence, however, it may not be possible to achieve the target level and operations will proceed as based on the best available information at the time:

Table 2.

| Sequence | Canal | Reach | Target Draw-Down Level (ft) |
|----------|-------|----------------|--------------------------------|
| 1 | L-31N | S-331 to S-176 | 4.0 |
| | C-111 | S-176 to S-177 | 3.0 |
| 2 | L-31N | G-211 to S-331 | 4.0* |
| | L-31N | S-335 to G-211 | 5.0 |

* If Angel's well is 5.5 ft-NGVD or below, then 4.0 would be the target, otherwise, 3.5 ft-NGVD at the headwater of S-331 will be the target.

S-332B

Operational criteria are being developed to meet the RPA requirements. The criteria will take into account pre-storm and storm operations, except emergency deviations that must always be dealt with on a case-by-case basis. S-332B is a part of the Central and Southern Florida (C&SF) Project, which is multipurpose in scope. While S-332B allows flexibility to operate the C&SF project to better meet the needs of the Cape Sable seaside sparrow it may also be used for meeting other project purposes such as flood control.

Table 3.

| Rising Water Level (ft) | Discharge (cfs) | Falling Water Level (ft) | Rated Discharge (cfs) |
|-------------------------|-----------------|--------------------------|-----------------------|
| 4.7 | 75* | 5.0 | 450 |
| 4.9 | 200** | 4.9 | 325 |
| 5.0 | 325 | 4.8 | 200** |
| 5.1 | 450 | 4.7 | 75* |
| 5.2 | 575 | 4.2 | 0 |

* Start with 125-cfs pump if 75-cfs pump is not operational

** This will cause overflow of the weir in the retention area

During pre-storm operations, the criteria for operation of S-332B would be the same as under normal operations, however, the notification procedure is to take place prior to changes in the upstream or downstream structural operations. Refer to the notification and briefing process section of this document regarding briefing the Executive level prior to initiating pre-storm operations.

S-197

No change is suggested in the operational criteria for this structure during Condition 4. The operational criteria is defined the SFWMD structure book for S-197.

2. Condition 2 and 1 (12 to 24 Hours Prior to Forecast arrival of tropical storm force winds).

Continue operations as in Condition 4 and 3, but with the following considerations:

Table 4.

| Structure | Status |
|-----------|--|
| S-331 | Secure. Do not operate during storm. |
| S-332B | Secure. Personnel move to S-332D office area during storm. |
| S-332D | Continue pumping. Office area is hardened. |
| S-175 | Keep closed |
| S-197 | Consideration to be given to open 3 gates |

S-332B

Pumps are secured for safety reasons. Personnel should move to S-332D for protection from tropical storm force winds, and to await resumption of operations at S-332B.

S-197

Operation of this structure requires mobilization of field personnel and equipment to operate the gates. It is not safe to operate this structure during storm conditions. Consequently, depending on conditions, three gates may be opened at Condition 1.

3. Recovery (Conditions immediately after the storm ends or if the storm forecast changes such that Dade County is no longer likely to be affected.)

Operations during Recovery consist of: 1) Maximizing discharges at water control structures to minimize flooding and 2) make the transition back to operational regime in place prior to the storm.

Operations may also be returned to levels prior to implementing pre-storm operations as soon as the Dade County is no longer within the average forecast error swath.

Plan for Worst Case: Recovery would be necessary if storm conditions result in significant rainfall in the Miami-Dade County area. The target for operations would be to return to operational regime in place prior to the storm. However, use of water control structures (e.g., S-175, S-332B) under emergency flood control mode would begin or continue until Recovery is complete. The following operations are suggested to continue to operate in emergency flood control mode:

Table 5.

| Structure | Status |
|-----------|--|
| S-331 | Pump when downstream conditions allow |
| S-332D | Continue to pump |
| S-175 | Use of this structure would be on a case-by-case basis with concurrence from the Department of Interior. |
| S-197 | Open depending on conditions |
| S-332B | Resume pumping according to proposed operational criteria. As normal operations are resumed, as evidenced by opening of G-211 and/or reduction of discharges at S-197, DOI will provide recommendations to the Corps for use in their decision regarding continued operations at S-332B. |

Sequence for Achieving Normal Operating Ranges

It is not possible to describe the sequence of operational actions during Recovery prior to a particular storm event. The sequence of operational actions will depend largely on the rainfall distribution and rainfall amounts resulting from the storm.

4. Back to Normal Mode (Operational regime in place prior to the storm)

The following conditions must be met before ceasing emergency flood control mode and resuming normal mode:

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1. DOI will advise the Corps of any overflow problems or adverse impacts to the CSSS Subpopulation F that may be occurring for the Corps to use in their decision regarding pumping reductions at S-332B.
2. Otherwise, stages in canal reaches must be within the specified operating ranges in place prior to the change to pre-storm or storm operations to resume normal mode.

Once these conditions are met, the normal mode, as defined by operational regime in place prior to the storm, may be resumed. Emergency use of certain water control structures, such as S-175 and S-332B, would cease.

This document may be modified depending on additional information, as it becomes available.